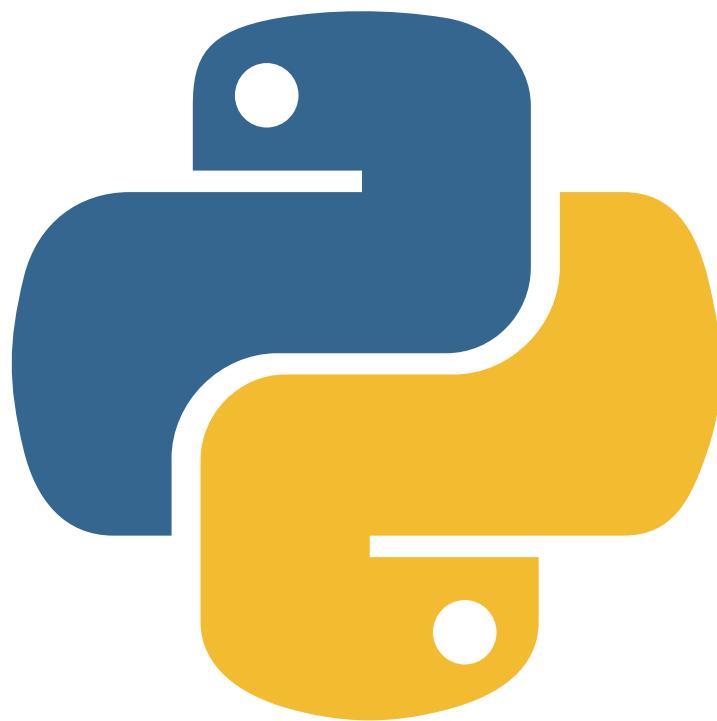


Day 1: Python Basics to Advanced

Chapter 1: Introduction

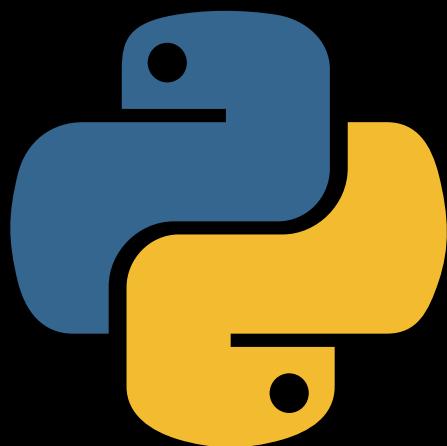
Today's Topics:

- What is Python?
- Features of Python
- Applications Of Python
- Python Installation
- First Python Program



By @Curious_.programmer ✨

Chapter 1: Introduction to Python



Made By:



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1.1 What is Python?

- Python is a **general-purpose, dynamic, high-level, and interpreted** programming language.
- It is designed to be **simple and easy to learn**, making it an ideal choice for beginners.
- One of the key strengths of Python is its **versatility**.
- Python supports the **object-oriented programming** approach, allowing developers to create applications with organized and reusable code.

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1.2 Features of Python

- **Readability:** Python's syntax is designed to be clear and readable, making it easy for both beginners and experienced programmers to understand and write code.



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- **Simplicity:** Python emphasizes simplicity and avoids complex syntax, making it easier to learn and use compared to other programming languages.
- **Dynamic Typing:** Python is dynamically typed, meaning you don't need to explicitly declare variable types.
- **Large Standard Library:** Python provides a vast standard library with ready-to-use modules and functions for various tasks, saving developers time and effort in implementing common functionalities.
- **Object-Oriented Programming (oOP):** Python supports the object-oriented programming paradigm, allowing for the creation and manipulation of objects, classes, and inheritance.
- **Cross-Platform Compatibility:** Python is available on multiple platforms, including Windows, macOS, and Linux, making it highly portable and versatile.
- **Extensive Third-Party Libraries:** Python has a vast ecosystem of third-party libraries and frameworks that expand its capabilities in different domains, such as web development, data analysis, and machine learning

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- **Interpreted Nature:** Python is an interpreted language, meaning it does not require compilation. This results in a faster development cycle as code can be executed directly without the need for a separate compilation step.

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- **Integration Capabilities:** Python can easily integrate with other languages like C, C++, and Java, allowing developers to leverage existing codebases and libraries

1.3 Applications Of Python

Python is widely used in various domains and offers numerous applications due to its flexibility and ease of use. Here are some key areas where Python finds application:

- **Web Development:** Python is extensively used in web development frameworks such as Django and Flask. These frameworks provide efficient tools and libraries to build dynamic websites and web applications.
- **Data Analysis and Visualisation:** Python's rich ecosystem of libraries, including NumPy, Pandas, and Matplotlib, make it a popular choice for data analysis and visualization. It enables professionals to process, manipulate, and visualize data effectively.



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- **Machine Learning and Artificial Intelligence:** Python has become the go-to language for machine learning and AI projects. Libraries like TensorFlow, Keras, and scikit-learn provide powerful tools for implementing complex algorithms and training models.
- **Automation and Scripting:** Python's easy-to-read syntax and rapid development cycle make it an ideal choice for automation and scripting tasks. It is commonly used for tasks such as file manipulation, data parsing, and system administration.

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1.4 Python Installation

To download and install Python, follow these steps:

For Windows:

- Visit the official Python website at www.python.org/downloads/
- Download the Python installer that matches your system requirements.
- On the Python Releases for Windows page, select the link for the latest Python 3.x.x release.



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- Scroll down and choose either the "Windows x86-64 executable Installer" for 64-bit or the "Windows x86 executable installer" for 32-bit.
- Run the downloaded installer and follow the instructions to install Python on your Windows system.

For Linux (specifically Ubuntu):

- Open the Ubuntu Software Center folder on your Linux system.
- From the All Software drop-down list box, select Developer Tools.
- Locate the entry for Python 3.x.x and double-click on it.
- Click on the Install button to initiate the installation process.
- Once the installation is complete, close the Ubuntu Software Center folder.

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1.5 First Python Program

Writing your first Python program is an exciting step toward learning the language. Here's a simple example to get you started:



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```
# Printing Hellow World Using Python
```

```
print("Hello World!")
```

Let's break down the code:

- The `print()` function is used to display the specified message or value on the console.
- In this case, we pass the string "Hello, World!" as an argument to the `print()` function. The string is enclosed in double quotes.
- The `#` symbol indicates a comment in Python. Comments are ignored by the interpreter and are used to provide explanations or notes to the code.



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Day 2: Modules, Comment & Pip

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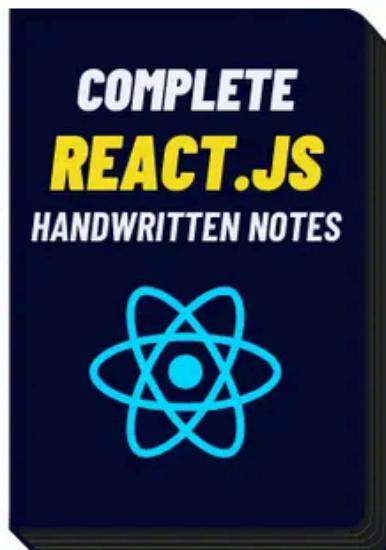
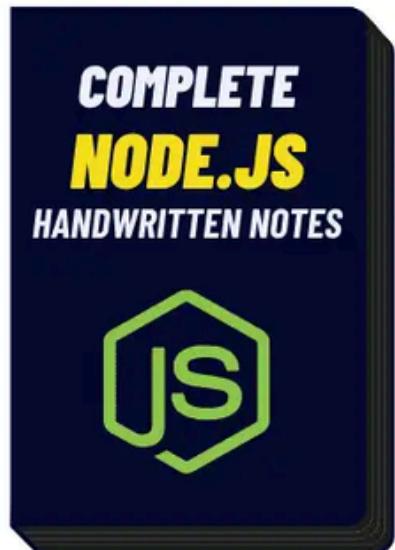
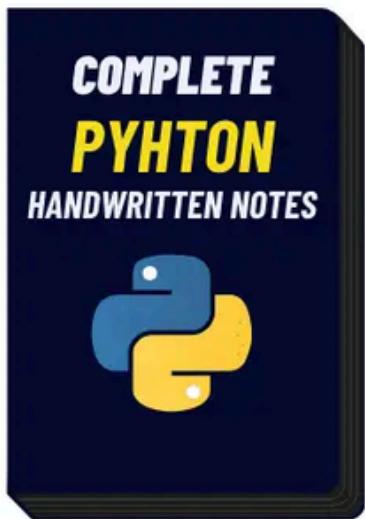
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